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Fat Content of Ground Beef and Sausage - 1985

By Lester Hankin

A cooperative study by The Connecticut Agricultural Experiment
Station, New Haven and the Food Division of the Connecticut
Department of Consumer Protection, Hartford.

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Fat Content of Ground Beef and Sausage - 1985

By Lester Hankin

Many consumers are concerned with their intake of fat, and fat in meat comprises about 8% of man's caloric intake (1). Ground beef is a favorite meat and accounts for about 30% of all processed beef (2). Under Connecticut Regulations ground beef can contain up to 30% fat. Other favorite meats are pork sausage, which can contain up to 50% fat, and Italian sausage, which can contain up to 35% fat.

In 1982-1983 we found the fat content of ground beef to range from 7 to 40% (3). We have continued to test meats for compliance with State and Federal Regulations and now report tests on ground beef and sausage samples collected in 1985.

For ground beef, Connecticut Regulations (4) are:

"Chopped beef or ground beef shall consist of chopped fresh and/or frozen beef with or without seasoning and without the addition of beef fat as such, shall not contain more than 30% fat, and shall not contain added water, binders, or extenders. Hamburger shall consist of chopped fresh and/or frozen beef with or without the addition of beef fat as such and/or seasoning, shall not contain more than 30% fat, and shall not contain any added water, binders, or extenders."

If the label on ground beef specifies no fat content, then the meat must not contain more than 30% fat. If, however, the label states a specific amount of fat less than 30%, as, for example, "not more than 18% fat", then the meat must comply with the label. Merchants sometimes state on the label that the ground beef contains not less than a certain percentage of lean. The interpretation of such labels by the

Commissioner of Consumer Protection based on Regulations (4) and Statutes (5) is that 100 minus the declaration of percent lean is equal to the percent fat. Thus, for example, a claim of not less than 82% lean means not more than 18% fat. If excess fat is found the product is misbranded under Connecticut Regulations (4) and Statutes (5).

Ground beef is sometimes labeled as "lean", "extra lean" or "diet lean" to imply a lower fat content, but no Connecticut Regulations pertain to such designations nor is there any way for the consumer to relate these designations to fat content. Ground beef is sometimes labeled as to cut of meat, for example, "ground chuck", "ground sirloin", or "ground round." No Connecticut Regulations pertain to such designations. Although chuck, round, and sirloin specify a particular cut of meat, once the meat is ground there is no way to determine the particular cut of meat that was used.

For sausage, Connecticut follows the Federal Regulations (6).

"Fresh pork sausage is sausage prepared with fresh pork or frozen pork, or both, but not including pork byproducts. The finished product shall not contain more than 50% fat.

Fresh beef sausage is sausage prepared with fresh beef or frozen beef, or both, but not including beef byproducts. The finished product shall not contain more than 30% fat. Breakfast sausage is sausage prepared with fresh and/or frozen meat, or fresh and/or frozen meat and meat byproducts. The finished product shall not contain more than 50% fat.

Italian sausage products are uncured, unsmoked

Table 1. Fat Content of Ground Beef.

Vendor	Town	% Fat		Label declaration
		Found	Claimed	
A & P	Groton	24.0	30	
A & P	Mansfield	18.1		Chuck
A & P	Mansfield	15.6		Chuck
A & P	Old Lyme	15.1		Sirloin
A & P	Suffield	11.8		Round
A & P	Waterford	19.4		Round
A & P	Windsor	18.1+	15	Round, lean
A & P	Windsor	10.0		Sirloin
A & P	Windsor	17.6	23	Chuck
Angelo's Market	New Britain	6.5		
Aresco's Superette	Meriden	16.6		
Berkley Market	Southington	14.0		
Better ValU of Mansfield	Mansfield	14.1		Chuck
Better ValU of Mansfield	Mansfield	15.0		
Bi It Rite	Norwich	21.8		
Bi It Rite	Old Saybrook	16.4		Extra lean
Blatche's Supermarket	Hartford	21.6		Chuck
California Fruit	New London	8.8		
Camp Hadar	Clinton	17.6		
Camp Laurelwood (Amer. Kosher)	North Madison	18.5		
Chester's	East Windsor	24.3		Chuck
Cobalt Supermarket	Cobalt	22.1		Chuck
Cobalt Supermarket	Cobalt	25.8		
Colonial Market	East Lyme	12.5		
Colonial Market	East Lyme	13.4		Round
Colonial Market	Groton	23.5		Chuck, extra lean
D & D Market	Plainville	26.0		
D & D Market	Plainville	28.8		
Edward's Food Warehouse	Enfield	16.3	16	Extra lean
Edward's Food Warehouse	Manchester	22.5	22	Lean
Edward's Food Warehouse	Manchester	22.9	22	Lean
Edward's Food Warehouse	Orange	25.0	28	
Edward's Food Warehouse	Orange	17.9+	16	Extra lean
Edward's Food Warehouse	Orange	18.6	22	Lean
Edward's Food Warehouse	Orange	18.3	22	Lean
Edward's Food Warehouse	Orange	13.9	16	Extra lean
Edward's Food Warehouse	Orange	22.5		
Edward's Food Warehouse	Orange	29.8		
Edward's Food Warehouse	Orange	24.8		
Edward's Food Warehouse	Orange	18.0	22	
Edward's Food Warehouse	Orange	29.2+	28	
Edward's Food Warehouse	Orange	18.9+	16	
Edward's Food Warehouse	Orange	27.5	28	
Edward's Food Warehouse	West Hartford	30.3+	28	
Edward's Food Warehouse	West Hartford	21.0		
Edward's Food Warehouse	West Hartford	27.6		
Edward's Food Warehouse	West Hartford	21.9		Extra lean
Ellington Food Center	Ellington	23.6		Chuck
Ellington Food Center	Ellington	11.4		Round
Everybody's Market	Cheshire	17.3		
Everybody's Market	Cheshire	19.6		Lean
Everybody's Market	Hamden	17.9		Chuck
Everybody's Market	Hamden	14.3		Sirloin
Everybody's Market	Meriden	12.8		Diet lean
Everybody's Market	Meriden	17.0		
Fairway Beef	Fairfield	16.3		
Farm Fresh Market	Meriden	8.8		
Ferraro's	Bristol	22.0		
Finast Supermarket	Bristol	18.6		Lean
Finast Supermarket	Bristol	24.9		
Finast Supermarket	Fairfield	24.8+	22	

Table 1. Fat Content of Ground Beef (continued).

Vendor	Town	% Fat		Label declaration
		Found	Claimed	
Finast Supermarket	Fairfield	15.5	16	Extra lean
Finast Supermarket	Fairfield	18.3		
Finast Supermarket	Stratford	10.4	14	
Finast Supermarket	Vernon	22.5		
Finast Supermarket	Vernon	20.3	22	Lean
Finast Supermarket	Windsor Locks	18.1		
First National	Niantic	20.7		Lean
First National	Niantic	14.3		Extra lean
First National	Portland	22.9		
First National	Portland	12.8		Extra lean
First National	Wallingford	19.3		
Fitzie's	East Granby	18.0		
Food Land	Willimantic	12.3		Round
Frank's Supermarket	Glastonbury	19.9		Chuck
Geissler's Market	Warehouse Point	22.3		
Geissler's Market	Windsor	11.9		Round, extra lean
Geissler's Market	Windsor	23.9		
Geissler's Market	Windsor	18.4		Chuck
Grazzo's Food Center	Plainville	24.4		
Greenfield's Warehouse Foods	East Hartford	26.6		Chuck
Greenfield's Warehouse Foods	West Hartford	14.6	15	Extra lean
Greenfield's Warehouse Foods	West Haven	15.8+	10	Diet lean
Greenfield's Warehouse Foods	West Haven	31.6+	20	Chuck, lean
Greenfield's Warehouse Foods	West Haven	17.3+	15	Round, lean
Greenfield's Warehouse Foods	Windsor	9.0	10	Sirloin
Greenfield's Warehouse Foods	Windsor	19.0	20	Lean
Greenfield's Warehouse Foods	Windsor	12.8	15	Extra lean
Hartmann's Supermarket	Vernon	11.9	20	Lean
Heartland Food Warehouse	Newington	25.6	28	
Highland Park Market	Manchester	18.0		
Highland Park Market	Manchester	24.4		
IGA South	Cheshire	11.9+	10	Sirloin
J.C. Nichols	Winsted	16.4		
John's Food Town	Suffield	12.0		Round
John's Market	Groton	13.9		Chuck
Liberty Market	Winsted	16.6		
Long Hill Supermarket	Groton	12.4		
Marandino's	New Hartford	16.1		
Meattown of East Hartford	East Hartford	26.6		
Mitchell's Super Market	Niantic	17.8		Chuck
Mitchell's Super Market	Niantic	18.6		Chuck
Mott's Shop Rite	Middletown	11.4		
Nahas Bros.	Groton	14.4		Chuck
Newington Meat Center	Newington	18.1		
Pathmark	Hamden	22.9	25	Lean
Pathmark	Hamden	21.8+	20	Chuck, lean
Pathmark	Hamden	13.8	15	Round, lean
Pathmark	Hamden	16.6	20	Chuck, lean
Pathmark	Stratford	24.8	25	
Pathmark (Signature Brand)	Stratford	22.5		
Price Rite	Norwich	18.9	20	
Price Rite	Norwich	18.1		Chuck
Public Market	Newington	21.7		
Public Market	Newington	14.9		
Schwab Market	Hartford	30.3		
Shaker Pines Market	Enfield	15.6		Round
Shop Rite	Bridgeport	28.9		
Shop Rite	Bristol	23.4+	20	Lean
Shop Rite	Bristol	16.3	20	Lean
Shop Rite	Bristol	16.6	20	Lean
Shop Rite	Enfield	15.6	20	Lean
Shop Rite	Groton	13.0		Extra lean

Table 1. Fat Content of Ground Beef (continued).

Vendor	Town	% Fat		Label declaration
		Found	Claimed	
Shop Rite	Manchester	17.6	20	Lean
Shop Rite	Norwich	11.0		Chuck
Shop Rite	Norwich	14.4		Chuck
Shop Rite	West Hartford	25.8+	20	Lean
Shop Rite	West Hartford	20.9	20	Lean
Shop Rite	West Hartford	24.9+	20	Lean
Shop Rite	Willimantic	15.8		Lean
Stop & Shop	Bristol	17.4		Lean
Stop & Shop	Enfield	15.1		Sirloin
Stop & Shop	Enfield	18.6		Chuck, lean
Stop & Shop	Enfield	14.7		Extra lean
Stop & Shop	Groton	16.9	16	Sirloin
Stop & Shop	Groton	24.5		
Stop & Shop	Hamden	19.5		
Stop & Shop	Hartford	28.3		
Stop & Shop	Hartford	19.1		
Stop & Shop	Norwich	18.0		Chuck, lean
Stop & Shop	Norwich	15.4		Chuck
Stop & Shop	Old Saybrook	16.8		Chuck, lean
Stop & Shop	Orange	17.8		Lean
Stop & Shop	Wallingford	21.4		
Stop & Shop	Willimantic	17.8		Chuck, lean
Ted's of Suffield	Suffield	12.8		Chuck
Ted's Supermarket	Hebron	9.6	10	Round
The Meating Place	Bristol	5.5		Round
Top Supermarket	Southington	24.1		
Town & Country Market	Meriden	13.8		
Tri Town Foods	Colchester	17.5	20	Chuck
Tri Town Foods	Colchester	14.4	14	Round
Waldbaum's Food Mart	Berlin	23.8		
Waldbaum's Food Mart	Berlin	24.3		Chuck
Waldbaum's Food Mart	Bristol	21.3	28	
Waldbaum's Food Mart	Bristol	17.3	23	Chuck
Waldbaum's Food Mart	Enfield	17.5	17	Lean
Waldbaum's Food Mart	Manchester	22.9	28	
Waldbaum's Food Mart	Middletown	16.0		
Waldbaum's Food Mart	New Haven	19.3	28	
Waldbaum's Food Mart	New Haven	18.3	23	
Waldbaum's Food Mart	New Haven	18.5	28	
Waldbaum's Food Mart	New Haven	13.5	17	Round
Waldbaum's Food Mart	New Haven	21.6	23	Chuck
Waldbaum's Food Mart	Newington	28.1		
Waldbaum's Food Mart	West Hartford	21.3	23	Lean
Warehouse Foods	East Hartford	18.4		Chuck
Warehouse Foods	Windsor	7.5	10	Diet lean
Waz's IGA	Bristol	27.8	30	
Waz's IGA	Bristol	18.7	30	
Westside Meat Market	Meriden	6.5		
Westside Meat Market	Meriden	16.6		
Winsted Super Saver	Winsted	15.1		
Yale-New Haven Hospital	New Haven	18.2		
Yale-New Haven Hospital	New Haven	18.4		
Yale-New Haven Hospital	New Haven	19.1		

sausage containing at least 85% meat, or a combination of meat and fat, with the total fat content constituting not more than 35% of the finished product. Italian sausage also may be made with fresh and/or frozen pork, or pork and pork fat. Italian sausage also may be made with beef or beef and veal but shall be prepared so that fresh and/or frozen pork constitutes the major portion of the meat content required. Uncooked, smoked pork sausage shall not contain more than 50% fat."

This Bulletin reports analyses of fresh ground beef and sausage sold at retail stores.

Methods

Samples were collected from January 1 through December 31, 1985 by inspectors of the Food Division of the Connecticut Department of Consumer Protection. In all, 176 ground beef and 122 sausage samples were purchased and tested. All were from retail stores except two ground beef from camps and three from a hospital. Unless the label claimed a lower fat content, samples of ground beef were considered to be regular ground beef and subject to the regulation that they contain not more than 30% fat. Sausage was considered to be subject to the regulation that the product contain not more than 50% fat unless the label specifically indicated that it was Italian pork sausage and thus subject to the regulation that it contain not more than 35% fat. No beef sausage was tested.

Samples were delivered to the laboratory and either tested immediately or frozen until tested. Analyses were performed by methods described in Official Methods of Analysis (7). Fat is expressed as percentage of the finished product that was purchased.

Beef and pork contain muscle and connective tissue as well as fat. When beef is ground, the product is particulate rather than homogeneous. Thus, there is some variability in samples. Because of this inherent variability, duplicate analyses for fat are always made and the results averaged. We found an average difference of one percentage unit between duplicates with a standard deviation about their mean of 0.9 percentage units. Because of the inherent variability in sampling and in analysis, only samples found to be greater than one percentage unit above the regulated standard or above the claim stated on the label were considered to contain an excess of fat.

Results and Discussion

Ground Beef: In Table 1 the fat contents of the 176 ground beefs tested, expressed as percentage of fresh weight of the finished product, are listed by vendor. Following the name of the vendor is the town

where the merchant is located or where the sample was obtained. The percentage of fat found is then shown, and those with an excess of fat are followed by a plus sign (+). If a specific claim for fat was made it is shown followed by any label declaration pertaining to a cut of meat or designation as "lean", "extra lean", or "diet lean" implying lower fat content.

Among the 176 ground beefs tested were 115 not specifying a fat content and thus subject to the regulation that they contain not more than 30% fat. These 115 ground beefs averaged 18.3% fat (Table 2). Also among the 176 ground beefs were 61 labeled as "lean", "extra lean", or "diet lean" to imply a lower fat content, and some labeled "ground chuck", "ground sirloin" or "ground round" to show cut of meat used. Samples labeled as lean averaged 19.3% fat, and those designated as extra lean or diet lean, 15% fat. Samples labeled ground chuck averaged 18.8% fat, ground sirloin, 13.2%, and ground round, 13.3%. Products specifying a cut of meat or implying lower fat content, unless also specifying a specific fat content, need only meet the requirement that the meat contain not more than 30% fat.

None of the 115 samples not claiming a fat content exceeded the standard of 30% (Table 3). On the other hand, 14 of 61 claiming a fat content less than 30% exceeded their claim. A comparison of conformity to regulated or claimed fat content in the present sampling with our sampling in 1982-1983 (Table 3) showed improvement.

Sausage: The fat contents of the 122 sausages, expressed as percentage of fresh weight of the finished product, are listed in Table 4. If the product was made in the store, the town is indicated. If it is a brand sold in many stores, then the town is not listed. The percentage of fat found is then shown, and those with an excess of fat are followed by a plus sign (+). Any label declaration follows. Eighty-one were designated as Italian sausage and subject to the 35% fat maximum allowance. Those without a label declaration and those not specifically labeled as Italian are considered to be regular sausage and subject to the 50% fat maximum allowance.

All sausage products, except one Italian sausage, met the requirements for maximum allowable fat. The average percentage of fat among all products was 24%. Sausage not specifically labeled as Italian or with no label designation averaged 25% fat with a range from 12 to 45%. Italian sausages averaged 22% with a range from 12 to 38%.

Summary

The 176 ground beef and 122 sausage samples collected in retail stores in Connecticut during 1985 were analyzed to determine if they met Connecticut and Federal Regulations pertaining to fat content.

Among 115 ground beefs subject to the regulation

that they contain not more than 30% fat, the average fat content was 18% and none contained more than the 30% allowed. Among samples designating a specific fat content, 14 of 61 exceeded their declared amount. Samples labeled as ground chuck averaged 19% fat, ground sirloin 13%, and ground round 13%. Samples labeled as lean averaged 19% fat and those labeled as

extra lean or diet lean, 15%. Among 122 sausage products examined, only one Italian sausage contained an excess of fat. All others labeled Italian were within the regulated requirement that they contain not more than 35% fat, and all those not labeled as Italian sausage had less than the 50% fat permitted under the regulations.

Table 2. Average Fat in Categories of Ground Beef.

Product	Number samples	% Fat	Range
Regular ground beef ^a	115	18.3	6.5 - 30.3
Lean ground beef	34	19.3	11.9 - 31.6
Extra lean or diet ground beef	17	15.0	7.5 - 23.5
Ground chuck	34	18.8	11.0 - 31.6
Ground sirloin	7	13.2	9.0 - 16.9
Ground round	15	13.3	5.5 - 19.4

a. Samples subject to 30% fat allowance even though they had a label declaration showing cut of meat or implying lower fat content.

Table 3. Comparison of 1985 and 1982-83 Analyses of Fat in Ground Beef.

Product	1985		1982 - 1983	
	Number samples	% With excess fat	Number samples	% With excess fat
Regular ground beef	115	0	155	2
Ground beef with % fat specified	61	23	48	42
All samples	176	8	203	11

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Table 4. Fat Content of Sauzaages.

Vendor	Town	% Fat Found	Label declaration
Angelo's Market	New Britain	25.3	
Aresco's Superette	Meriden	25.6	
Berkley Market	Southington	25.1	
Bi It Rite	Norwich	18.0	Italian, sweet
California Fruit	New London	19.5	
Chef's Pride		37.8	Link, pork
Chester's	East Windsor	22.3	Country style, pork
Colonial Market	East Lyme	25.9	Italian
Colonial Market	East Lyme	21.2	Italian, sweet
Countryfine		23.1	Italian, sweet
D & D Market	Hartford	19.6	Italian
D & D Market	Plainville	17.3	
D & D Market	Plainville	12.5	
D'Fiore		24.6	Italian, hot
D'Fiore		27.6	Italian
DiBacco Grocery	Hartford	17.1	Italian
DiMauro's Market	Hartford	12.4	Italian
Dinner Bell		33.1	Italian
Dinner Bell		29.6	Patties
Edward's Food Warehouse	Enfield	25.5	Italian, sweet
Edward's Food Warehouse	Manchester	19.3	Italian, pork, sweet
Edward's Food Warehouse	Orange	24.8	Breakfast, pork, link
Edward's Food Warehouse	Orange	28.6	Italian, pork with cheese
Edward's Food Warehouse	Orange	25.5	Italian, pork, sweet
Edward's Food Warehouse	West Hartford	21.4	Italian, pork, sweet
Ellington Food center	Ellington	28.9	Country style, pork
Ellington Food Center	Ellington	26.8	Italian, sweet
Elm Brand		37.5	Pork
Elm Brand (Primo)		39.2	Pork
Everybody's Market	Cheshire	23.3	Italian, sweet
Everybody's Market	Cheshire	16.3	Italian
Everybody's Market	Meriden	12.1	Italian, hot
Fairway Beef	Fairfield	20.1	
Farm Fresh Market	Meriden	22.6	
Ferraro's	Bristol	24.5	Italian, sweet
Finast Supermarket	Bristol	21.0	Italian, hot
Finast Supermarket	Fairfield	21.1	Italian, sweet
First National	Wallingford	21.4	Italian, pork
Fitzie's	East Granby	19.3	Italian, pork, hot
Food Land	Willimantic	28.1	Italian
Geissler's Supermarket	Warehouse Point	18.9	Italian, hot
Grazzo's Food center	Plainville	21.1	Italian, sweet with spices
Greenfield's Food Warehouse	West Hartford	15.3	Italian, sweet
Greenfield's Warehouse Foods	West Haven	19.6	Italian
Harco		25.4	Italian
Hartmann's Supermarket	Vernon	19.9	Italian, hot
Heartland Food Warehouse	Newington	23.9	Polish
Hillshire Farm		30.6	Smoked, hot links
Holiday		19.5	Italian, sweet
Home Pride Provisions	Manchester	41.9	Pork
IGA South	Cheshire	15.9	Italian
J.C. Nichols	Winsted	35.9	
Lamberti's		19.3	Italian
Liberty Market	Winsted	29.5	
Longhill Supermarket	Groton	21.0	Italian
Marandino's	New Hartford	18.1	
Marandino's	New Hartford	25.3	Italian, hot
Marandino's	New Hartford	22.9	Italian, sweet
Meattown of East Hartford	East Hartford	23.4	
Meattown of East Hartford	East Hartford	36.0	
Meattown of East Hartford	East Hartford	38.2+	Italian
Mitchell's Super Market	Niantic	20.5	Italian, pork, sweet

Table 4. Fat Content of Sausages (continued).

Vendor	Town	% Fat Found	Label declaration
Mitchell's Super Market	Niantic	24.8	Italian, sweet
Nahas Bros.	Groton	26.4	Italian
Newington Meat Center	Newington	21.3	Pork
Orsini's		19.8	Italian
Our Own		23.8	Italian, pork
P & M Market	Hartford	17.0	Italian
Parks		44.8	Rope
Perri		25.6	Italian, hot
Perri		24.8	Italian
Perri		23.3	Italian, sweet
Perri		24.6	Italian
Perri		27.3	Italian, sweet
Primo		24.4	
Primo		24.4	
Primo		25.8	Italian
Primo		25.6	Italian
Primo		23.6	Italian
Primo		26.4	Italian
Primo		27.6	Italian
Primo		25.5	Italian
Primo		23.3	
Primo		22.1	Italian
Public Market	Newington	21.9	
Public Market	Newington	21.1	
Raggozino Italian Imports	Southington	24.6	
Regional Beef Co.	Hartford	21.0	Italian
Stop & Shop	Bristol	16.0	Italian, hot
Stop & Shop	Enfield	21.1	Italian
Stop & Shop	Groton	17.0	Polish
Stop & Shop	Hamden	22.4	Italian, sweet
Stop & Shop	Hartford	21.8	Italian
Stop & Shop	Norwich	21.3	Italian, sweet
Stop & Shop	Norwich	18.8	Italian, sweet
Stop & Shop	Orange	19.0	Italian, sweet
Stop & Shop	Wallingford	21.3	Italian, sweet
Stop & Shop	Willimantic	21.0	Italian, sweet
Stop & Shop (Our Own Brand)	East Hartford	22.3	Italian, hot
Swift		23.0	Italian
Ted's of Suffield	Suffield	25.5	Italian, pork, sweet
The Meating Place	Bristol	18.3	Hot
Tops Supermarket	Plainville	23.3	
Town & Country Market	Meriden	19.8	
Tri Town Foods	Colchester	23.4	Italian, pork
Waldbaum's Food Mart	Berlin	18.1	
Waldbaum's Food Mart	Berlin	18.1	
Waldbaum's Food Mart	Bristol	22.4	Italian, sweet
Waldbaum's Food Mart	Bristol	21.3	Italian, pork, hot
Waldbaum's Food Mart	Enfield	22.6	Italian, garlic & cheese
Waldbaum's Food Mart	Manchester	33.1	Italian, pork
Waldbaum's Food Mart	Middletown	22.5	
Waldbaum's Food Mart	New Haven	23.1	Italian, pork, sweet
Waldbaum's Food Mart	Newington	16.9	Italian, hot
Waldbaum's Food Mart	West Hartford	26.8	Italian
Warehouse Foods	East Hartford	18.8	Italian, hot
Warehouse Foods	Windsor	26.1	Italian, sweet
Waz's IGA	Bristol	16.8	Italian, pork, hot
Waz's IGA	Bristol	16.9	Italian, pork, hot
Westside Meat Market	Meriden	29.5	
Westside Meat Market	Meriden	12.0	Sweet
Winsted Super Saver	Winsted	24.9	



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